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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.(currently amended) A data regenerator for regenerating a data signal, comprising:

a convertor for converting a received data signal into a binary data signal in dependence on conversion parameters;

a descrambler for descrambling the binary data signal output by the convertor to produce an uncorrected binary data signal;

an error corrector for correcting errors in the uncorrected binary data signal based on error correction code contained in the uncorrected binary data signal to produce a corrected binary data signal; and

rescrambling means for rescrambling the uncorrected binary data signal and the corrected binary data signal; and

a performance monitor including a comparator for performing a bitwise comparison of comparing the rescrambled corrected binary data signal with an uncorrected representation of the the rescrambled uncorrected binary data signal to determine information about the relative number of logic "1"s and logic "0"s that have been corrected by the error corrector and output a feedback signal representative of said information, and wherein said comparator generates a first signal when the comparator detects that a logic "1" has been changed to a logic "0" and a second signal when the comparator detects that a logic "0" has been changed to a logic "1" by the error corrector, and wherein the performance monitor includes a duty cycle generator responsive to the first and second signals for generating the feedback signal, the feedback signal being indicative of the ratio of corrected logic "1"s to corrected logic "0"s for predetermined durations of the data signal.

wherein the convertor adjusts at least some of the conversion parameters in dependence on the feedback signal.

2. (original) The data regenerator of claim 1 wherein the adjusted conversion